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A Diophantine problem with a prime and three squares of primes

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We prove that if $\lambda_1, \lambda_2, \lambda_3$ and λ_4 are non-zero real numbers, not all of the same sign, λ_1 / λ_2 is irrational, and ϖ is any real number then, for any $\epsilon > 0$ the inequality

$$|\lambda_1 p_1 + \lambda_2 p_2^2 + \lambda_3 p_3^2 + \lambda_4 p_4^2 + \varpi| \leq \epsilon$$

has infinitely many solution in prime variables p_1, \dots, p_4

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